

Claims

1. A method of transmitting requests to a target device, comprising:
 - (a) establishing a direct TCP/IP connection between a computer system and a target device;
 - 5 (b) encoding a SCSI request with a tag identifying the request as a SCSI request, and structuring the request with a request IP/ID;
 - (c) sending the tagged SCSI request to the target device;
 - (d) returning the request IP/ID of the SCSI request from the target device to the computer system.
- 10 2. The method of claim 1, wherein said encoding step (b) further comprises structuring the field of the SCSI request in a manner substantially the same as a direct SCSI request from a host system to a target device.
3. The method of claim 2, wherein said encoding step (b) further comprises including a data buffer containing data to allow the target device to read
15 the data buffer using the established TCP/IP connection.
4. The method of claim 1, wherein said transmission step (c) further comprises sending the data buffer in conjunction with the SCSI request in a manner substantially different from direct SCSI requests from a host system to a target device, and which allows the host system to supply the data buffer without
20 an explicit request from the target system, whereby the target system is allowed to receive the data immediately following the request without having to make an explicit request to obtain the data buffer.
5. The method of claim 2, wherein said step (d) further comprises returning a data buffer generated by the target device to the workstation using the
25 established TCP/IP connection.
6. The method of claim 1, wherein said target device is a storage system.
7. The method of claim 6 wherein said computer system comprises a server connected to the storage system through SCSI cable, a workstation
30 connected to the server, and further comprising the workstation directly connected

to the storage system for establishing the TCP/IP connection with the storage system.

8. The method of claim 2, wherein said target device is a storage system.

5 9. The method of claim 8 wherein said computer system comprises a server connected to the storage system through SCSI cable, a workstation connected to the server, and further comprising the workstation directly connected to the storage system for establishing the TCP/IP connection with the storage system.

10 10. The method of claim 7, further comprising denying a connection from the workstation to the target device if a request from the workstation does not include a recognized IP/ID.

15 11. The method of claim 7, further comprising denying a connection from the computer system to the target device if the time for reading a completed message exceeds a predetermined amount of time.

12. The method of claim 7, wherein said direct connection is established on a network separate from a SCSI cable connection between the host system and the target device.

20 13. A system for directly transmitting requests to a target device connected to a computer system, comprising:

(a) a computer system connectable directly through a TCP/IP connection to a target device;

(b) the computer system is configured for encoding a SCSI request with a tag identifying the request as a SCSI request, and for structuring the request with an IP/ID;

(c) an instruction module in the computer system for sending the tagged SCSI request to a target device when the computer system is directly connected through a TCP/IP connection to the target device; and

(d) the target device being programmed to accept the SCSI request and for returning the request IP/ID of the SCSI request and a reply to the computer system when connected thereto.

14. The system of claim 13, wherein the computer system is further
5 configured for structuring the field of the SCSI request in a manner substantially the same as a direct SCSI request from a host system to a target device.

15. The system of claim 14, wherein the computer system is further configured for, as part of the encoding, creating a buffer containing data to allow the target device to read the data buffer.

10 16. The system of claim 14, wherein the target device is configured for generating and returning a data buffer to the computer system in response to a request received from the computer system.

17. The system of claim 13, wherein said target device is a storage system.

15 18. The system of claim 17, wherein said computer system comprises a server connected to the storage system through SCSI cable, a workstation connected to the server, and further comprising the workstation directly connected to the storage system for establishing a TCP/IP connection with the storage system.

20 19. The system of claim 14, wherein said target device is a storage system.

20. The system of claim 19, wherein said computer system comprises a server connected to the storage system through SCSI cable, a workstation connected to the server, and further comprising the workstation directly connected
25 to the storage system for establishing a TCP/IP connection with the storage system.

21. The system of claim 18, wherein the target device is configured for denying a connection from the workstation thereto if a request from the workstation does not include a recognized IP/ID.

23. The system of claim 18, further comprising a network for
5 establishing the TCP/IP connection between the host system and target device.